Armed Forces College of Medicine

Anatomy department

Front Of Thigh

By

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INTENDED LEARNING OBJECTIVES (ILO)

- By the end of this lecture the student will be able to:

1- Describe the attachments and contents of superficial fascia of thigh

2- Describe attachment of deep fascia

3- Define site , shape , and structures piercing saphenous opening

4- Describe attachment, muscle inserted and functions of iliotibial tract

5- Describe attachment, action and nerve supply of muscles of the front of thigh.

Fascia of front of thigh

SUPERFICIAL FASCIA

- **Contents of the superficial fascia:**

1-Cutaneous nerves. 2-Cutaneous vessels 3- Upper part of great saphenous ve

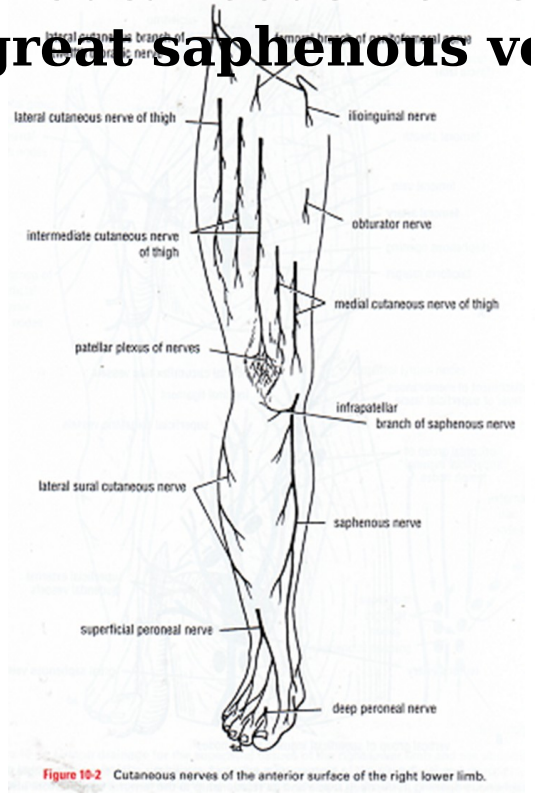
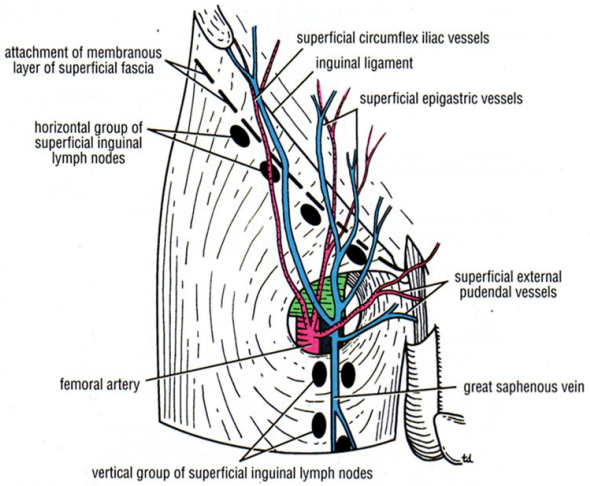
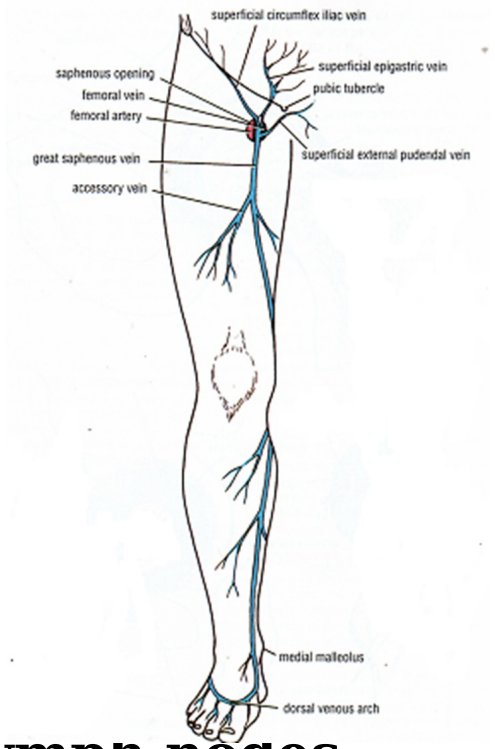


Figure 10-2 Cutaneous nerves of the anterior surface of the right lower limb.





4-Superficial inguinal lympn nodes.

1) Cutaneous nerves : the skin of the front and medial side of the thigh is supplied by:

1-Ilioinguinal nerve

2-Femoral branch of genitofemoral nerve

3- lateral cutaneous nerve of the thigh

4-Medial cutaneous nerve of the thigh

***5*- Intermediate cutaneous nerve of the thigh**

***6*- A cutaneous branch from th anterior division of the obturato nerve**

7-Patellar plexus.

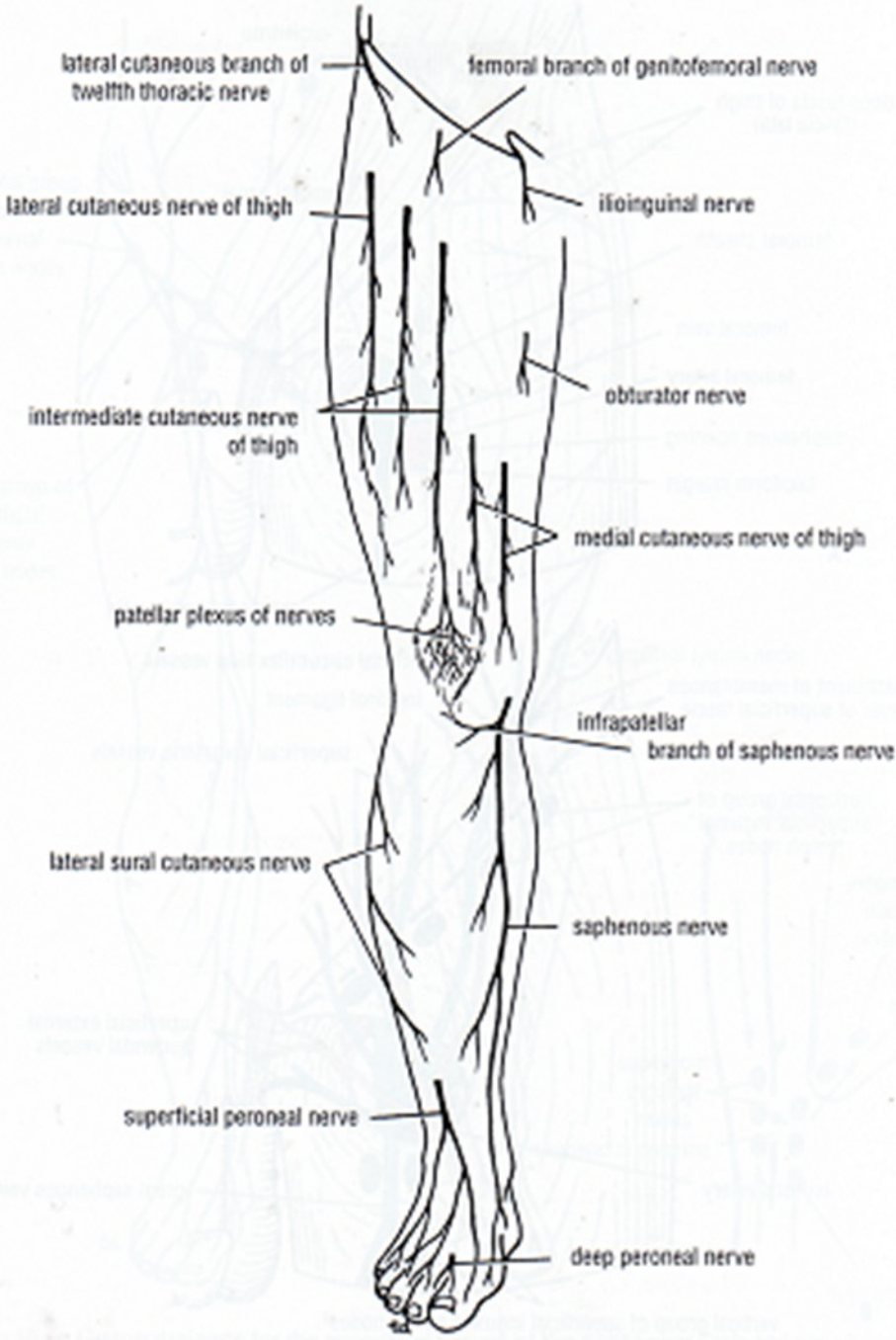


Figure 10-2 Cutaneous nerves of the anterior surface of the right lower limb.

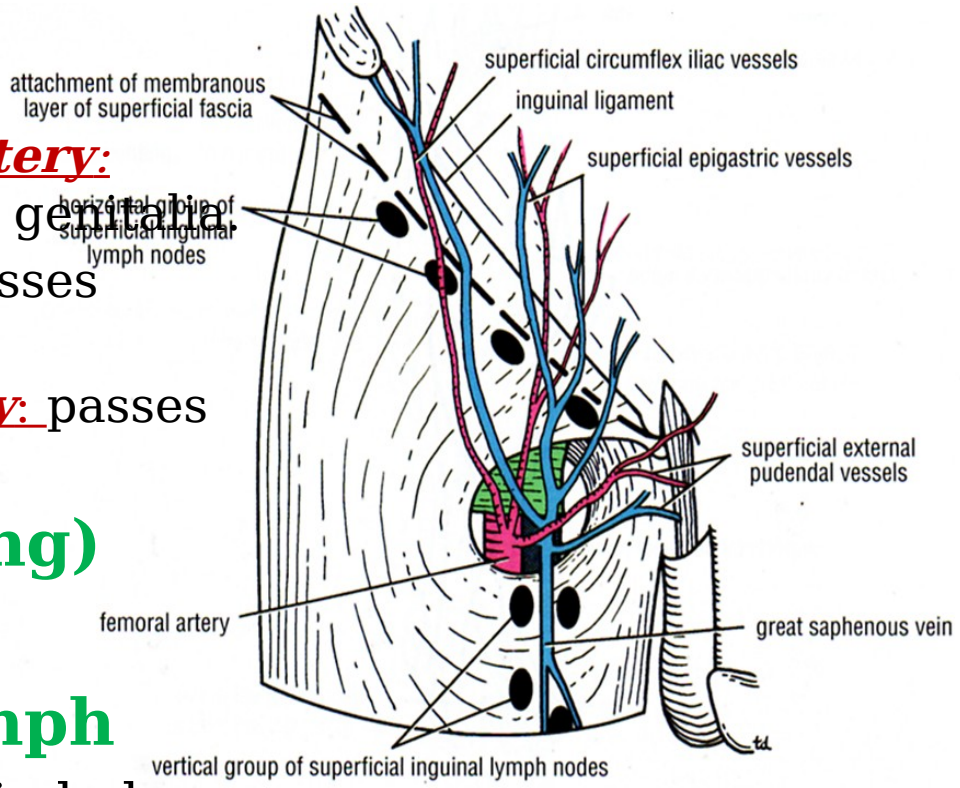
2) Cutaneous vessels:

Three superficial inguinal arteries which are branches of the femoral artery arising just below the inguinal ligament passing in different directions.

1-Superficial external pudendal artery: passes medially to supply the external genitalia.

2-Superficial epigastriac artery: passes upwards

3-Superficial circumflex iliac artery: passes upwards and laterally.



3) Upper part of great (long) saphenous vein

4) Superficial inguinal lymph nodes:

lie in the superficial fascia below the inguinal ligament. Arranged into 2 groups forming the shape of **letter T**.

Deep fascia (fascia lata) of the thigh:

Fibrous tough and strong sheath surrounds completely the whole thigh like a stocking **1- Thickened laterally**

2- Its upper medial part is to form iliotibial tract

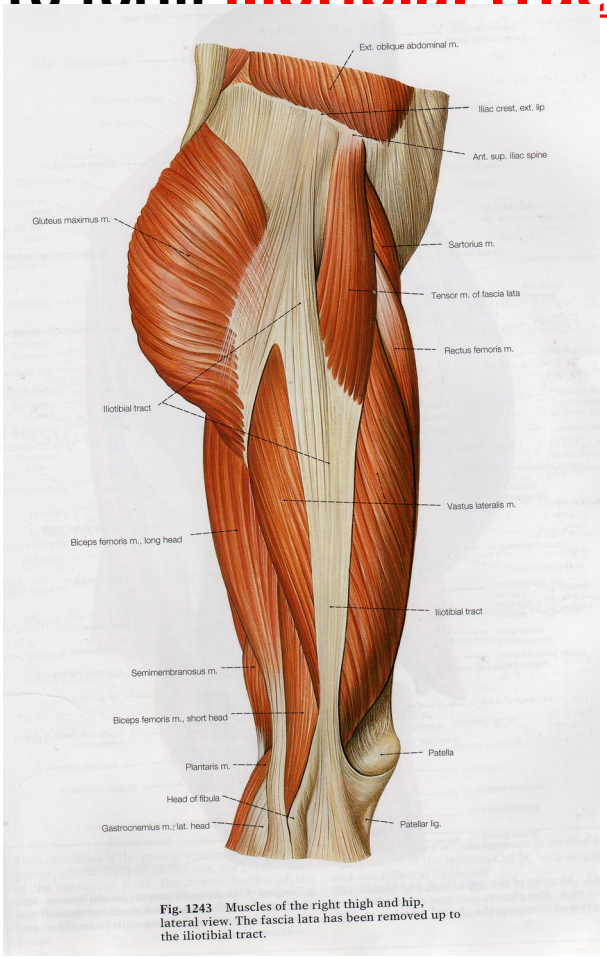
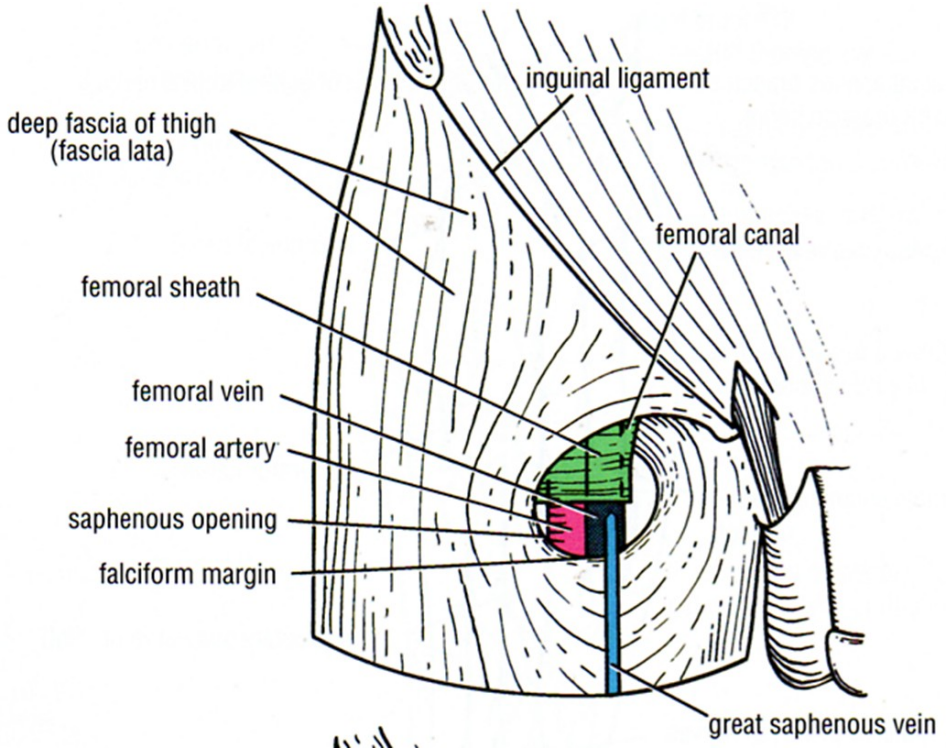


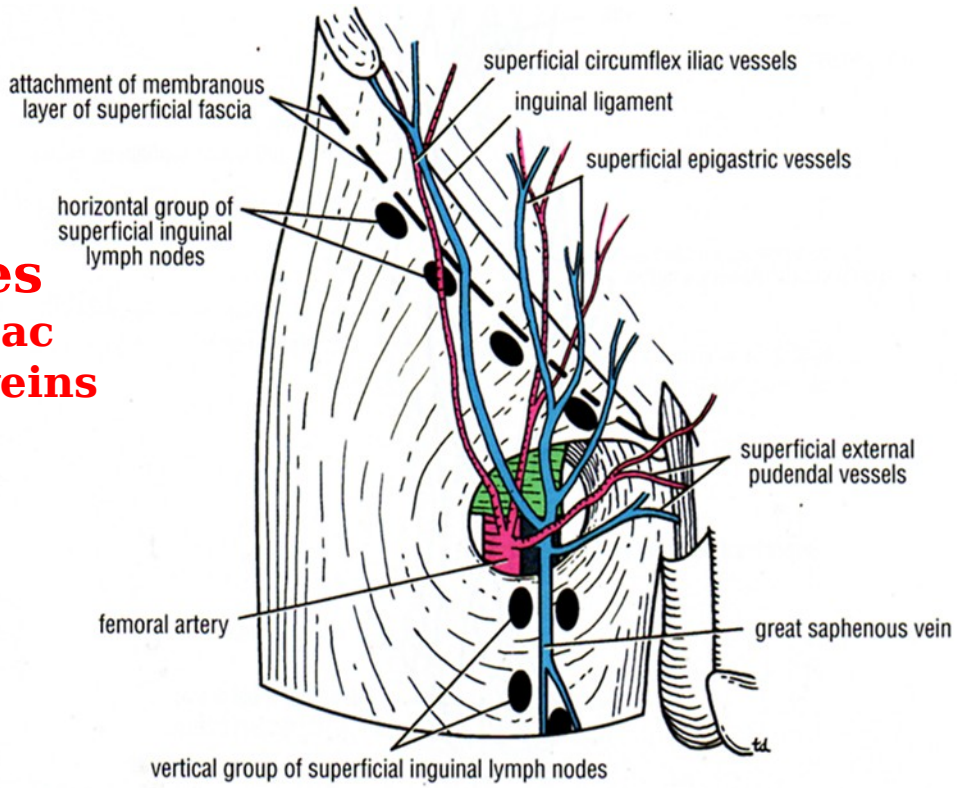
Fig. 1243 Muscles of the right thigh and hip, lateral view. The fascia lata has been removed up to the iliotibial tract.



SAPHENOUS OPENING

- **An opening in deep fascia of front of thigh**
- **Site: about 4 Cm below and lateral to the pubic tubercle**
- **Closed by: The cribriform fascia which is perforated by:**

1. **Great saphenous vein**
2. **Superficial inguinal arteries (sup epigastric,sup. circumflex iliac and sup. external pudendal)(not veins since they end in saphenous v)**
3. **Lymphatics:**



Iliotibial tract:

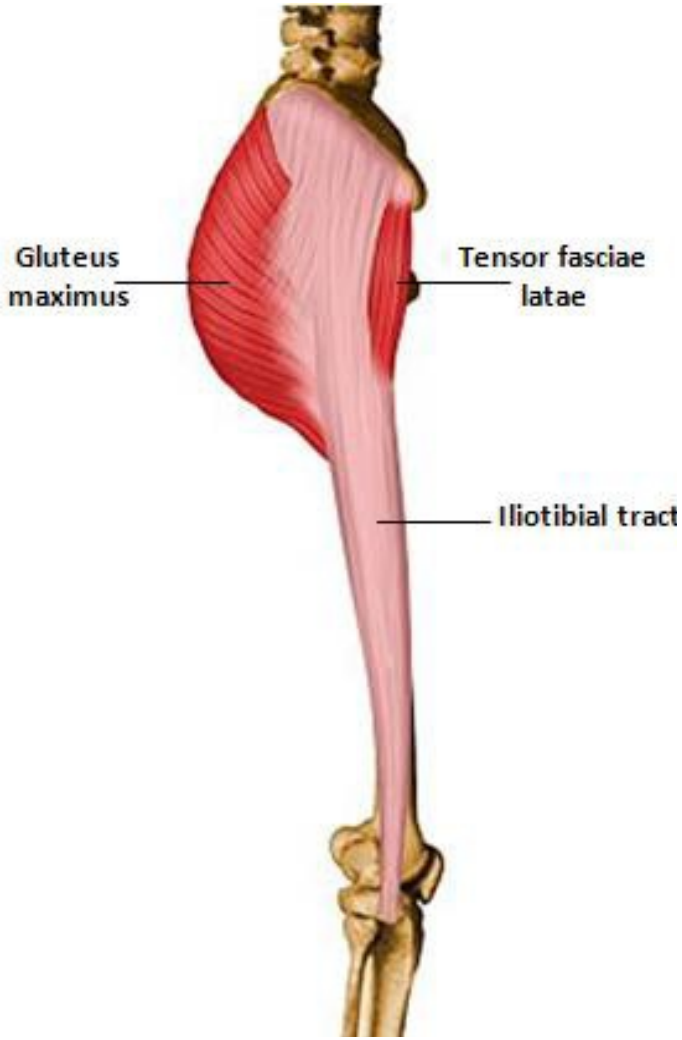
A ***thickened*** band of fascia lata on the ***lateral***
side of thigh attached to:

Above: the tubercle of the iliac crest.

Below: lateral condyle of the tibia.

It receives the insertion of 2 muscles:

- tensor fasciae latae
- gluteus maximus (its superficial ¾)



Function of iliotibial tract:

1- stabilise the femur on the tibia

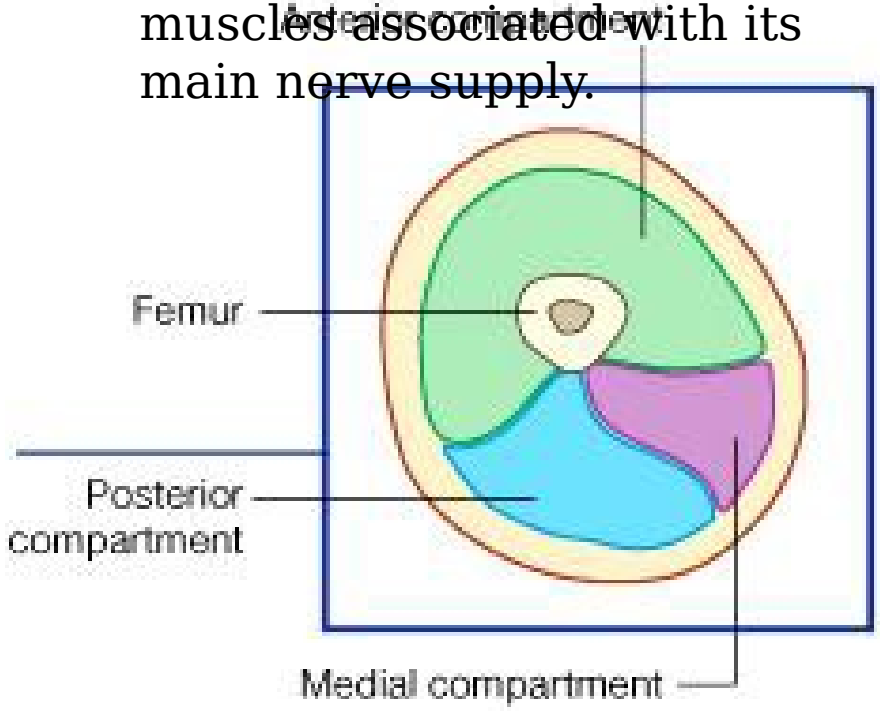
2- Helps in extension of the knee.

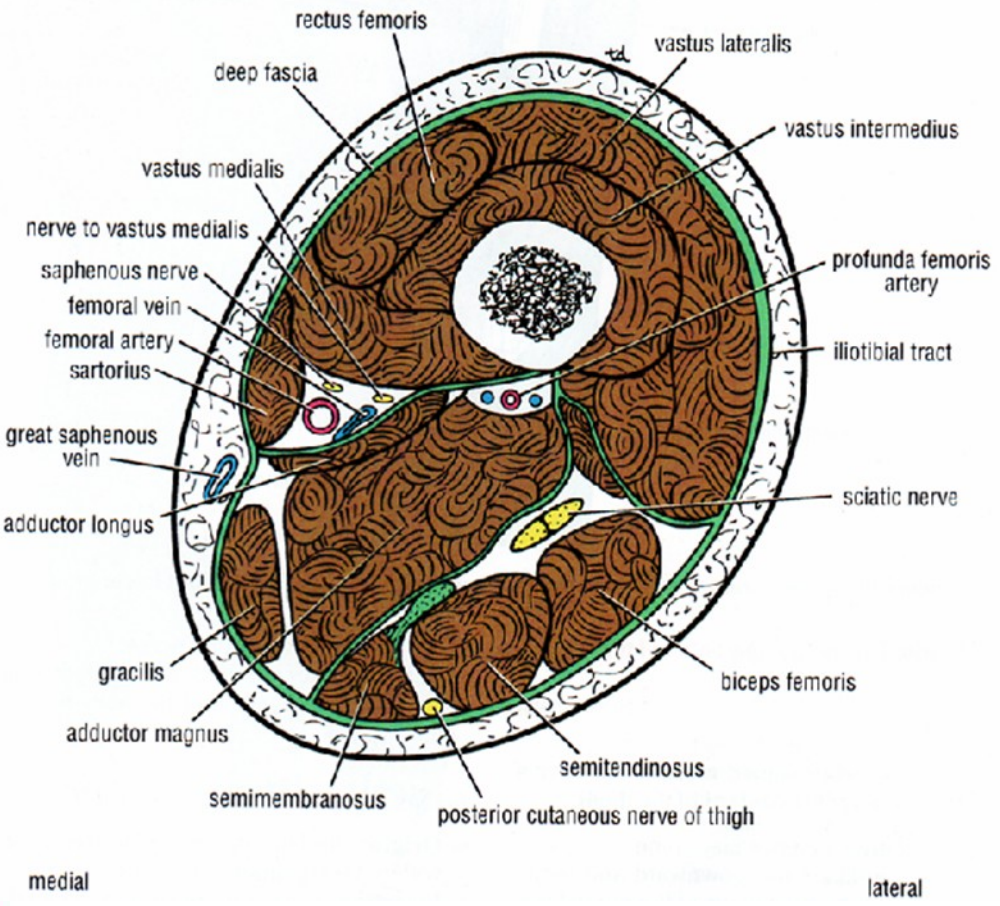
Three intermuscular septa (***medial, lateral*** and ***posterior***)

- pass from the inner surface of the fascia lata to the linea aspera of the femur .

- divide the thigh into 3 compartments:

- each contains a group of muscles associated with its main nerve supply.





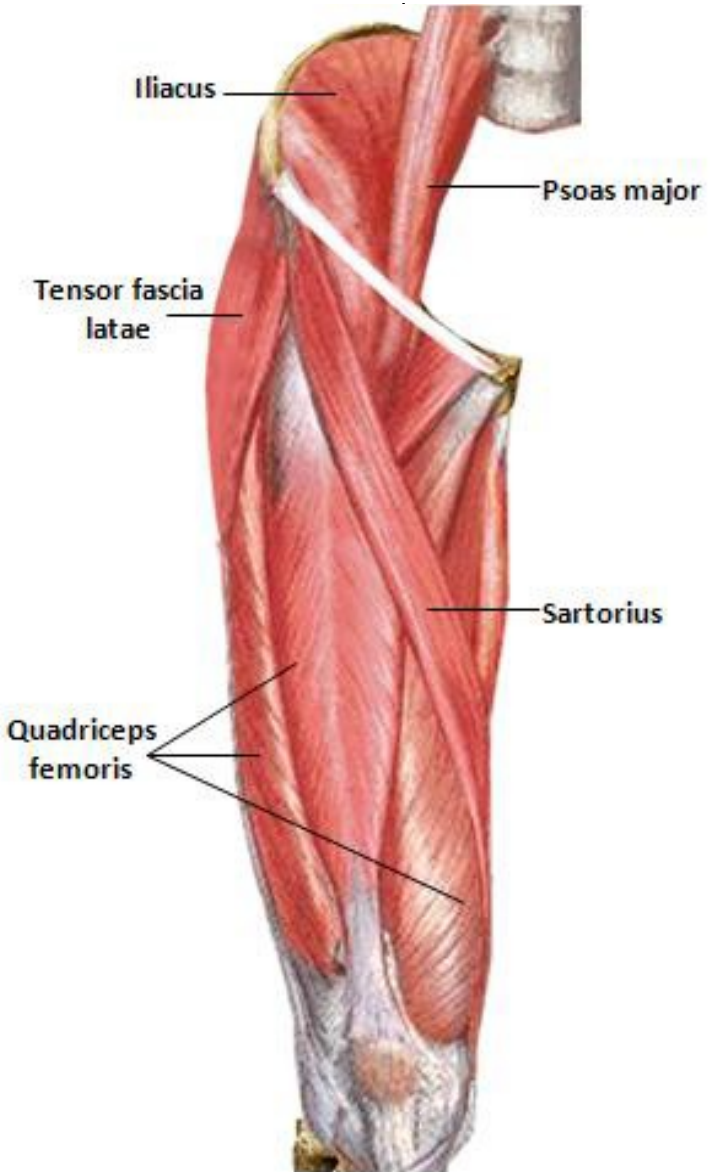
Muscles of the front of the thigh (anterior femoral muscles):

1) Tendons of p*soas major & iliacus. (Abdomen)*

2) Tensor fasciae latae *(described in gluteal region)*.

3) Sartorius.

4) Quadriceps femoris *(rectus femoris and 3 vasti; medialis, lateralis and intermedius)*.



SARTORIUS

Origin: Anterior superior iliac spine

Insertion (SGS):

Upper part of medial surface of shaft of the tibia

Nerve supply: Femoral nerve

Action (tailor leg, crossed leg):

- **- Flexion, abduction and lateral rotation of the thigh at the hip joint**
- **- Flexion and medial rotation of leg at knee**

***Important relations*:**

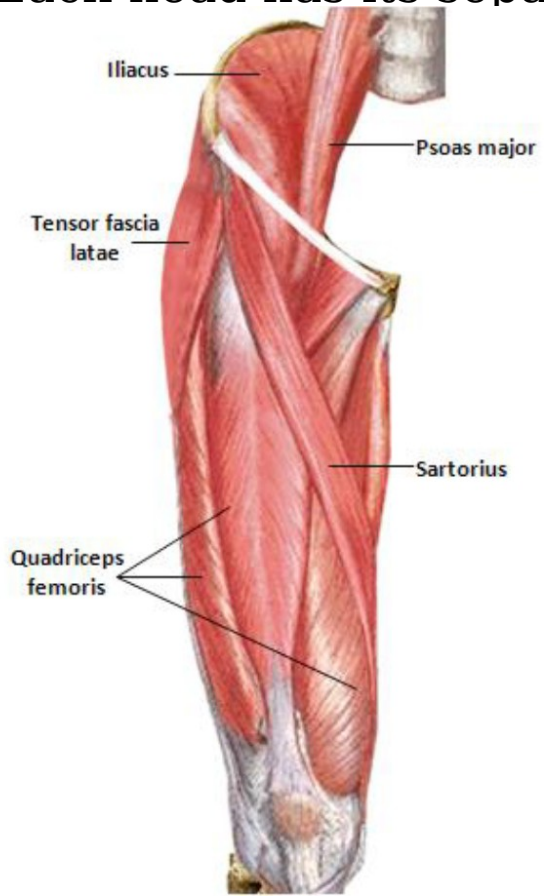
 Forms the lateral boundary of the femoral triangle.

 Forms the roof of the adductor canal.

 Shares gracilis & semitendinosus in the formation of a *triade* that stabilize pelvis on the tibia (**Guy ropes**).

Quadriceps femoris

- Is the main extensor of the knee joint.
- Is formed of 4 heads *(rectus femoris & 3 vasti; lateralis, medialis & intermedius)*.
- The 4 heads have different origins & common insertion.
- Inserted into *the patella & the tibial tuberosity.*
- Each head has its separate nerve supply from the fe

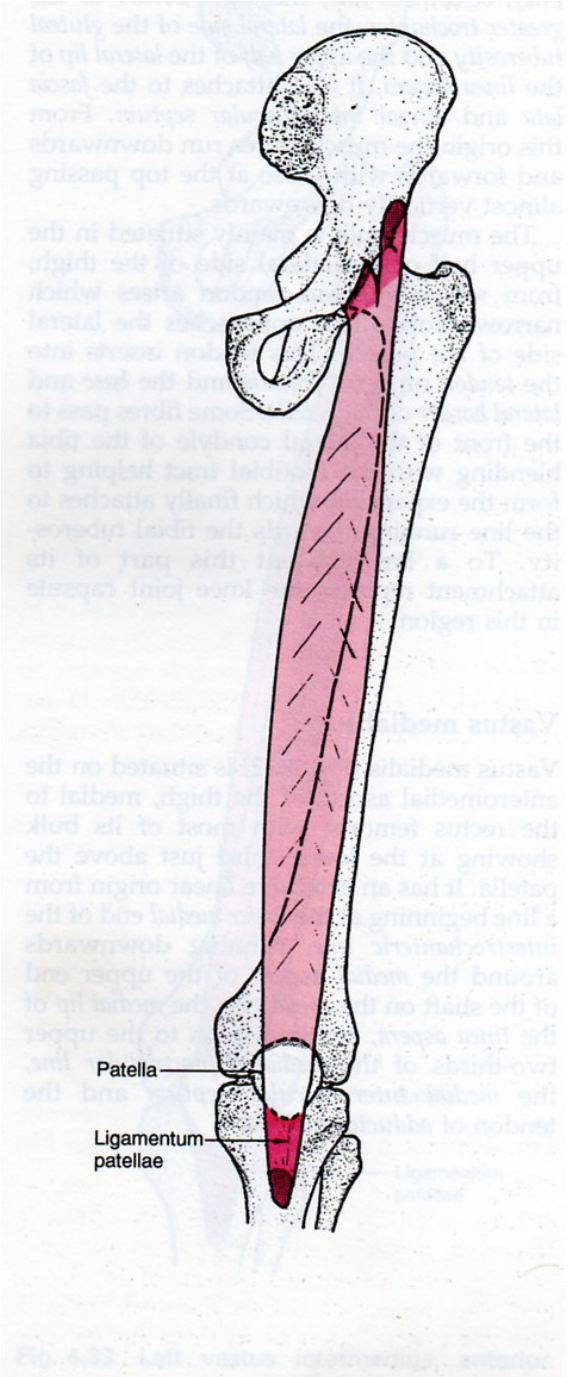


RECTUS FEMORIS

Origin:

Straight head: Anterior inferior iliac spine

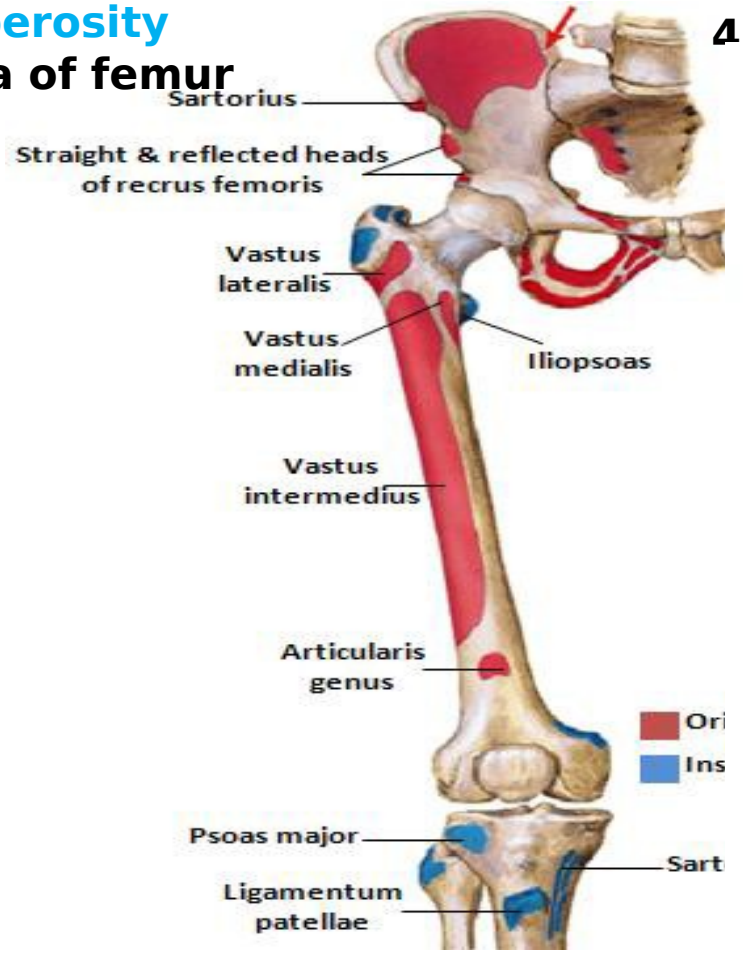
Reflected head: ILium above the acetabulum



VASTUS LATERALIS

Origin:

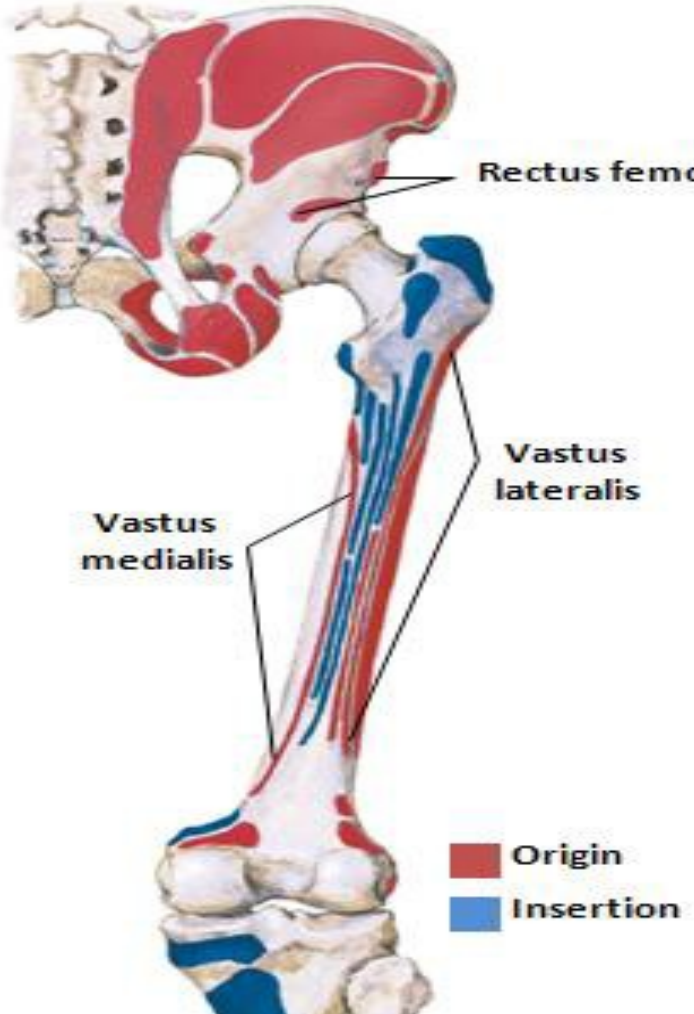
1- upper part of Intertrochanteric line
2- base of greater trochanter
3- Gluteal tuberosity
4-linea aspera of femur

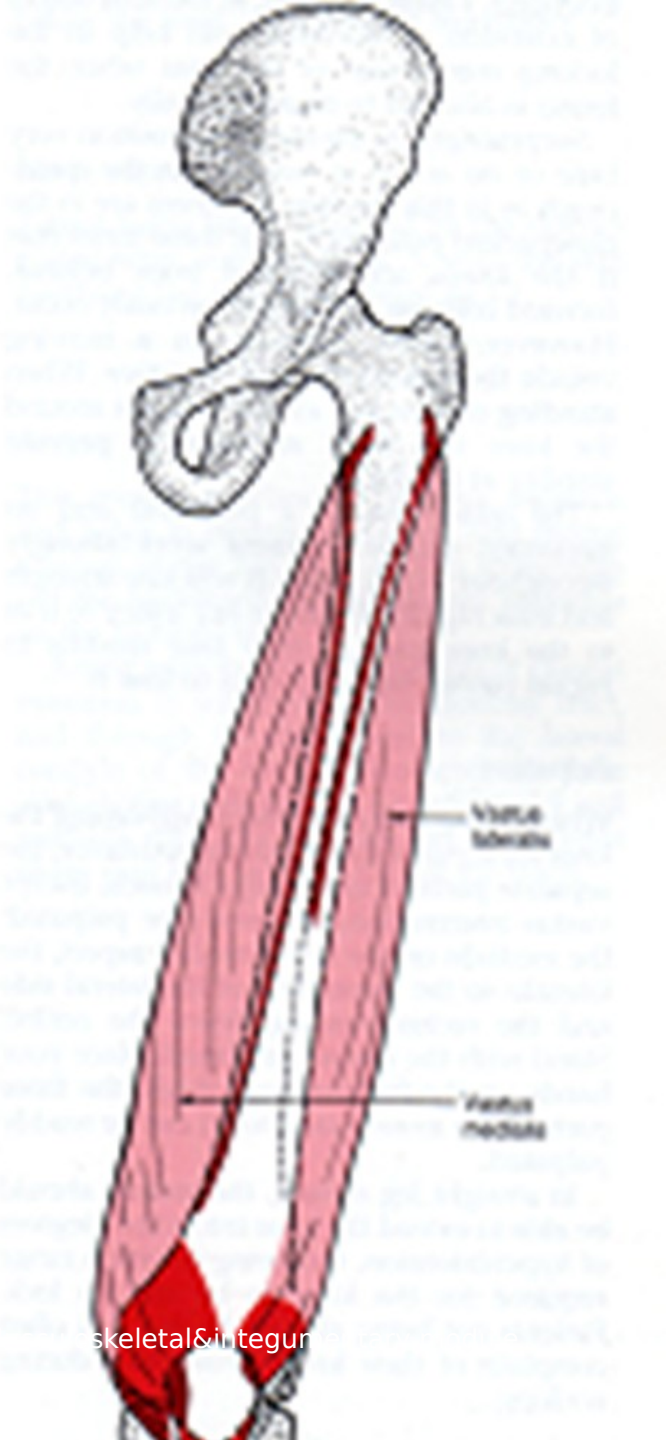


VASTUS MEDIALIS

Origin:

1- lower part of Intertrochanteric line
2- base of lesser trochanter
3- spiral line
4-linea aspera of femur





VASTUS INTERMEDIUS

Origin: Upper 2/3 of anterolate surface of shaft of femur

Articularis genus

Origin:

- **Lower part of anterior surface of shaft of femur**

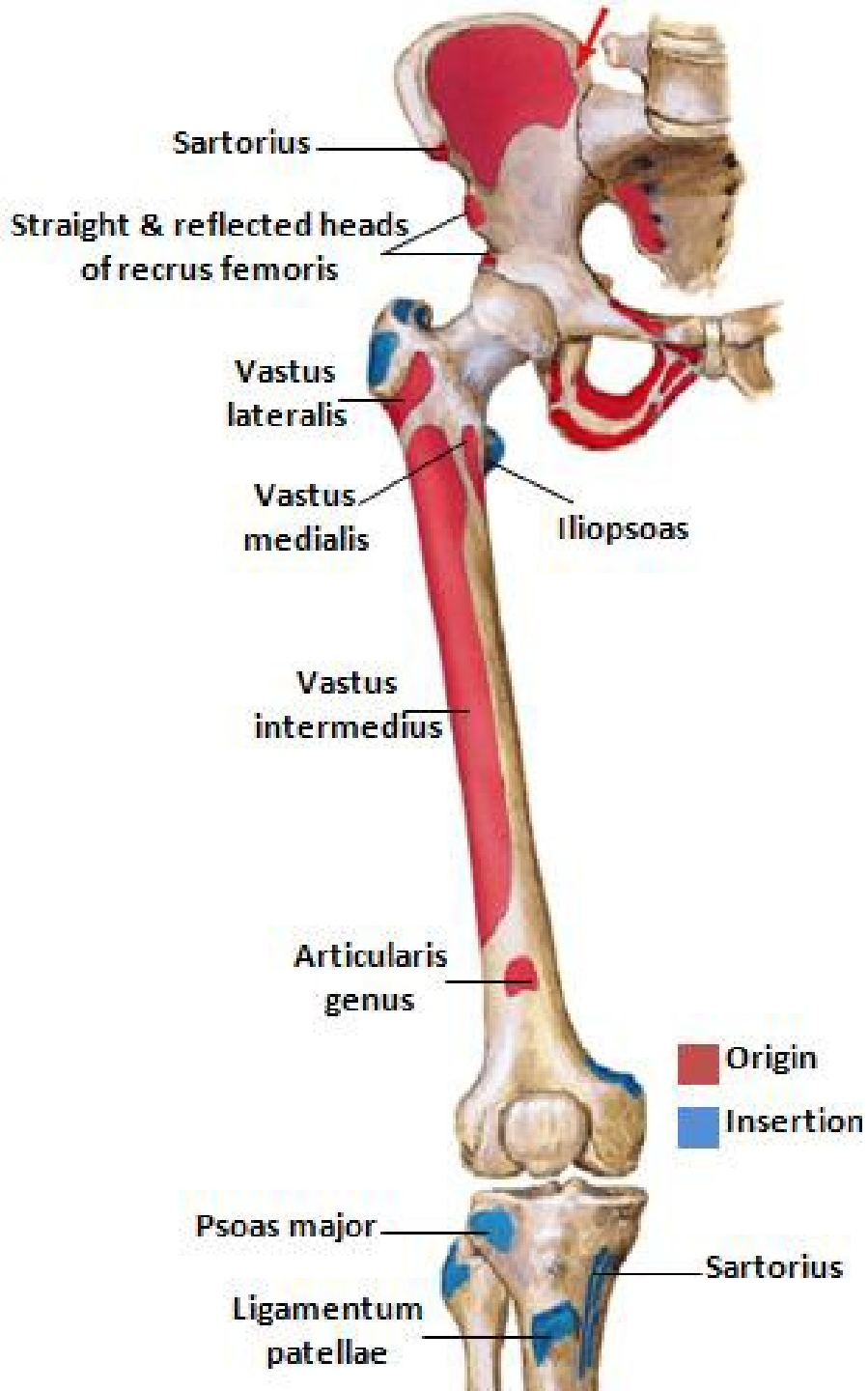
Insertion:

- **Upper part of synovial membrane of knee joint**

Nerve supply: Femoral nerve

Action:

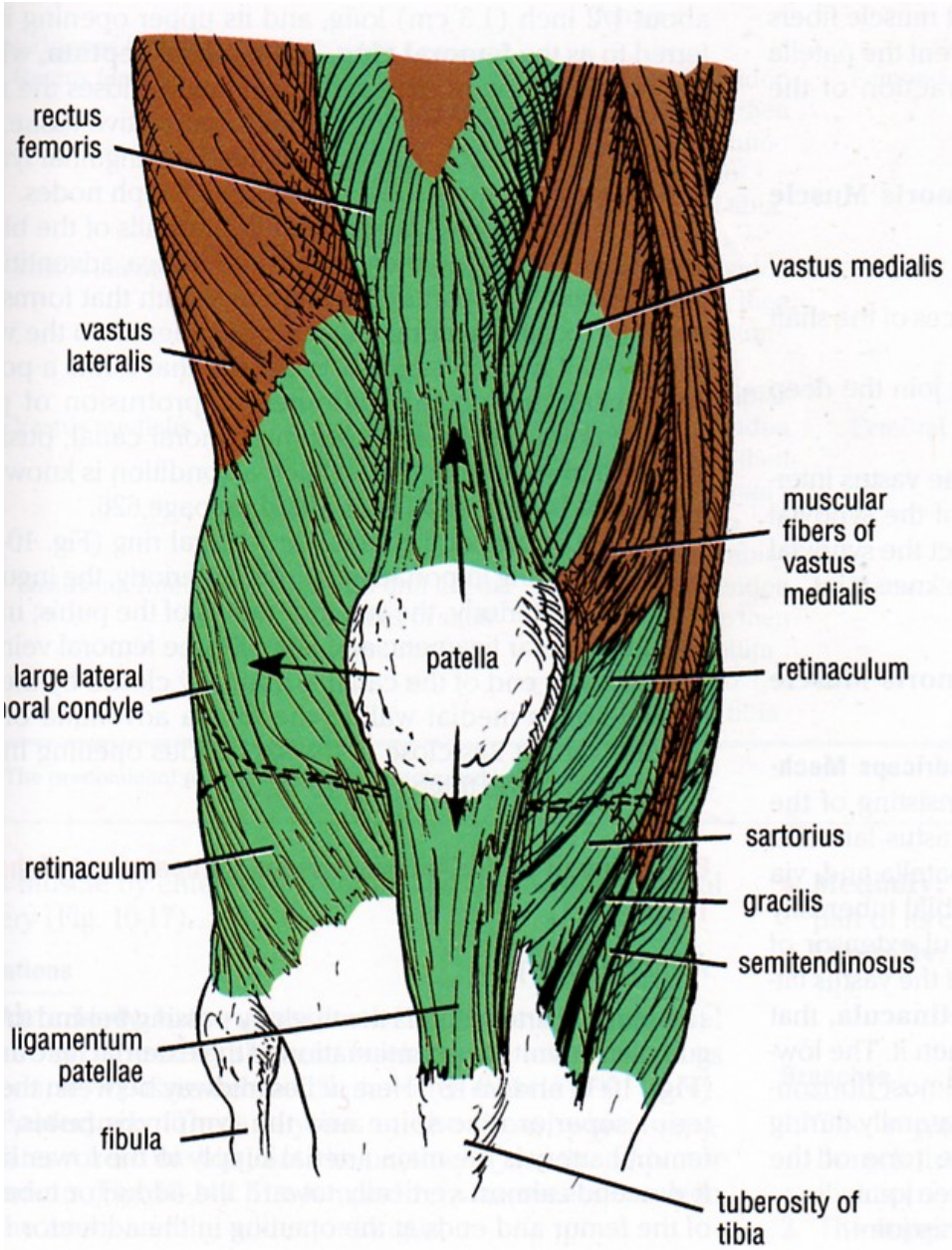
- **Retraction of upper part of synovi membrane of knee joint during its extension to prevent its trap betwe femur and patella**



Insertion

- The 4 muscles fuse to form the common tendon of quadriceps which is inserted into the base of the patella and its margins.
- Then **ligamentum patellae** or patellar ligament carries the insertion to the upper smooth part of the tibial tuberosity.
- Vastus lateralis gives a tendinous expansion on the lateral side of the patella blends with the iliotibial tract and known as **lateral patellar retinaculum**.
- Vastus medialis gives a tendinous expansion on the medial side

of the patella which is attached to the medial tibial condyle and is known as **medial patellar**



***Nerve supply*:**

 Each head of quadriceps femoris receives separate nerve supply from the posterior division of the femoral nerve.

 The nerve to rectus femoris gives articular branches to the hip joint, while the nerves to the vasti give articular branches to the knee joint.

***Action*:**

1-The 4 heads are the main extensor of the knee joint.

2-Rectus femoris helps in hip flexion.

3-The lower fibres of vastus medialis are **fleshy and horizontal,** contract during the terminal phase of knee extension, so prevent lateral displacement of the patella.

4-Both medial & lateral patellar retinacula stabilize the knee joint.

5-Articularis genus muscle pulls the synovial

Lecture Quiz

After receiving a cick from a cow in the slaughter house, a butcher developed impairment of both flexion hip and extension knee. Which of the following nerves was likely involved?

A- Femoral

B- Inferior gluteal

C- Obturator

D- Sciatic

E- Superior gluteal

SUGGESTED TEXTBOOKS

Clinical Anatomy by Regions, 9th edition, 2011, Snell RS, Lippincott, Williams and Wilkins

Atlas of Human Anatomy, 6th edition, 2014, Netter F.H.

Gray's Anatomy for students, 2nd edition, 2011, Drake R. et al, Churchill & Livingstone


Thank You